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Att. Docket No. 02345/129

Reply to Office Action of September 11, 2003

REMARKS

Claims 33 to 56 have been added, and therefore claims 16 to 56 are now pending.

With respect to paragraph four (4) of the Office Action, Applicant thanks the Examiner for indicating that claims 29 and 32 include allowable subject matter. While the rejections of the claims may not be agreed with, to facilitate matters, claims 29 and 32 have been rewritten as independent claims. It is therefore respectfully requested that the objections be withdrawn, since claims 29 and 32 are allowable.

With respect to paragraph one (1), claims 16 to 28, 30 and 31 were rejected under 35 U.S.C. § 102(b) as anticipated by Calderbank et al., U.S. Patent No. 5,115,453.

As regards the anticipation rejections of the claims, to reject a claim under 35 U.S.C. § 102(b), the Office must demonstrate that each and every claim feature is identically described or contained in a single prior art reference. (*See Scripps Clinic & Research Foundation v. Genentech, Inc.*, 18 U.S.P.Q.2d 1001, 1010 (Fed. Cir. 1991)). As explained herein, it is respectfully submitted that the Office Action does not meet this standard, for example, as to all of the features of the claims. Still further, not only must each of the claim limitations be identically described, an anticipatory reference must also enable a person having ordinary skill in the art to practice the claimed subject matter, as discussed herein. (*See Akzo, N.V. v. U.S.I.T.C.*, 1 U.S.P.Q.2d 1241, 1245 (Fed. Cir. 1986)). In particular, it is respectfully submitted that the reference relied upon would not enable a person having ordinary skill in the art to practice the subject matter of the claims as presented.

As further regards the anticipation rejections, the Office Action relies extensively on the inherency doctrine. In this regard, it is respectfully submitted that to rely on inherency, the Examiner must provide a "basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristics *necessarily* flows from the teachings of the applied art." (*See* M.P.E.P. § 2112; emphasis in original; and *see Ex parte Levy*, 17 U.S.P.Q.2d 1461, 1464 (Bd. Pat. App. & Int'f. 1990)). *Thus, the M.P.E.P. and the case law make clear that simply because a certain result or characteristic may occur in the prior art does not establish the inherency of that result or characteristic.* Accordingly, it is respectfully submitted that any anticipation rejection premised on the inherency doctrine is not sustainable absent the foregoing conditions.

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The Office Action conclusorily asserts that “Calderbank . . . is directed to a communication system that utilizes a *multi-dimensional signaling scheme [which] inherently employs orthogonal basis function to minimize interference between channels*”. (Office Action, page 2 (emphasis added)). In view of the foregoing, to the extent that the Examiner maintains these conclusory and unsupported assertions to conclude that these references inherently (and identically) disclose the multi-level modulation process as recited in the context of claim 16, it is respectfully requested pursuant to 37 C.F.R. § 1.104(d)(2) that the Examiner provide an affidavit and/or that the Examiner provide published information concerning each of these assertions. This is because the rejections are apparently based on assertions that draw on facts within the personal knowledge of the Examiner, since no support was provided for these otherwise conclusory and unsupported assertions. In this way, the Applicant may have a fair opportunity to meaningfully and specifically address objective evidence -- as provided for by Rule 104.

In any event, it is believed and respectfully submitted that the cited reference does not identically describe a method for data transmission, as in claim 16, that includes: *using a multi-level modulation process to represent a signal for transmission*, the multi-level modulation process using at least one orthogonal basis function; *and selecting signal points of a signal constellation according to at least one respective predetermined and/or selected probability so as to optimize a respective signal energy and/or a respective signal data rate, the selected signal points each having a respective defined energy*.

It is therefore respectfully submitted that claim 16 is allowable, as are its dependent claims 17 to 27.

As further regards the anticipation rejections of dependent claims 17, 18 and 27, it is noted that the Office Action again relies on the inherency argument, without establishing how the reference inherently and identically describes the features of these claims. It is therefore respectfully submitted that these claims are allowable for these further reasons as to their further recited features.

As further regards the anticipation rejections of claims 20 and 21, the Office Action asserts in its obviousness section that these claims are obvious by essentially acknowledging that the “Calderbank” reference does not identically describe a “block code and or a convolution code for error-correcting code”. Accordingly, these obviousness assertions are

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wholly inconsistent with the anticipation rejections of claims 20 and 21, since they acknowledge that the features of claims 20 and 21 are not identically described by the "Calderbank" reference, as is required for anticipation. It is therefore respectfully submitted that claims 20 and 21 are not anticipated, and are therefore allowable.

As further regards the anticipation rejections of claims 22, 23, and 25, the Office Action asserts that the further recited features of these dependent claims are "just a design choice". Such an assertion, however, is directed to an obviousness argument, and therefore does not establish anticipation, since it acknowledges that the features are not identically described, as is required for anticipation. It is therefore respectfully submitted that claims 22, 23, and 25 are not anticipated, and are therefore allowable.

As regards claim 28, it includes features like claim 16 and is therefore allowable for the same reasons as claim 16, as explained above.

As further regards claim 28, it is not sufficient to establish anticipation to assert that the "source decoder 350 . . . is similar to the claimed inverse recoder". The cited reference must identically describe the inverse recoder as recited in the context of claim 28, which the Office Action acknowledges it does not do. It is therefore respectfully submitted that claim 28 is not anticipated for this further reason.

Claims 30 and 31 depend from claim 28, and are therefore allowable for the same reasons as claim 28.

As further regards the anticipation rejections of dependent claims 30 and 31, it is noted that the Office Action again relies on the inherency argument, without establishing how the reference inherently and identically describes the features of these claims. It is therefore respectfully submitted that these claims are allowable for these further reasons as to their further recited features.

With respect to paragraph three (3), claims 22 and 23 was rejected under the first paragraph of Section 112, as to enablement.

As regards the enablement rejection under the first paragraph of 35 U.S.C. § 112, it is respectfully submitted that the standard for determining whether a patent application complies with the enablement requirement is that the specification describe how to make and use the invention -- which is defined by the claims. (See M.P.E.P. § 2164). The Supreme Court established the appropriate standard as being whether any experimentation for

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practicing the invention was undue or unreasonable. (See M.P.E.P. § 2164.01 (citing Mineral Separation v. Hyde, 242 U.S. 261, 270 (1916); In re Wands, 858 F.2d 731, 737, 8 U.S.P.Q.2d 1400, 1404 (Fed Cir. 1988))). Thus, the enablement test is “whether one reasonably skilled in the art could make or use the invention from the disclosures in the patent coupled with information known in the art without undue experimentation.” (See id. (citing United States v. Teletronics, Inc., 857 F.2d 778, 785, 8 U.S.P.Q.2d 1217, 1223 (Fed. Cir. 1988))).

The Federal Circuit has made clear that there are many factors to be considered in determining whether a specification satisfies the enablement requirement, and that these factors include but are not limited to the following: the breadth of the claims; the nature of the invention; the state of the prior art; the level of ordinary skill; the level of predictability in the art; the amount of direction provided by the inventor; the existence of working examples; and the quantity of experimentation needed to make or use the invention based on the disclosure. (See id. (citing In re Wands, 858 F.2d at 737, 8 U.S.P.Q.2d at 1404 and 1407)). In this regard, the Federal Circuit has also stated that it is “improper to conclude that a disclosure is not enabling based on an analysis of only one of the above factors,” and that the examiner’s analysis must therefore “consider all the evidence related to each of these factors” so that any nonenablement conclusion “must be based on the evidence as a whole.” (See M.P.E.P. § 2164.01). It is respectfully submitted that the Office Action has not addressed these factors.

Importantly, an examiner bears the initial burden of establishing why the “scope of protection provided by a claim is not adequately enabled by the disclosure.” (See id. (citing In re Wright, 999 F.2d 1557, 1562, 27 U.S.P.Q.2d 1510, 1513 (Fed. Cir. 1993))). Accordingly, a specification that teaches the manner and process of making and using an invention in terms that correspond in scope to those used in describing and defining the claimed subject matter complies with the enablement requirement. (See id.).

It is believed and respectfully submitted that the present assertions of the Office Action do not address in any way whether the present application enables a person having ordinary skill in the art to practice the claimed subject matter of the claims without undue experimentation -- which it does. In short, it is believed that the Office Action’s arguments and assertions do not really address the issue of whether one having ordinary skill would have to *unduly experiment* to practice the claimed subject matter of the rejected claims -- a

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proposition for which the Office bears the burden of proving a prima facie case as to rejected claims 22 and 23.

In this regard, to properly establish enablement or non-enablement, the Office must make use of proper evidence, sound scientific reasoning and the established law. In the case of Ex Parte Reese, 40 U.S.P.Q.2d 1221 (Bd. Pat. App. & Int. 1996), a patent examiner rejected (under the first paragraph of section 112) application claims because they were based on an assertedly non-enabling disclosure, and was promptly reversed because the rejection was based only on the examiner's subjective belief that the specification was not enabling as to the claims. In particular, the subjective assertions of the Office Action are simply not supported by any real "evidence or sound scientific reasoning" -- which the law requires and which makes plain that the Office (and not an applicant) bears the burden of persuasion on an enablement rejection.

More particularly, the examiner in Ex parte Reese was reversed because the rejection had only been based on a conclusory statement that the specification did not contain a sufficiently explicit disclosure to enable a person to practice the claimed invention without exercising undue experimentation -- which the Board found to be merely a conclusory statement that only reflected the subjective and unsupported beliefs of a particular examiner and that was not supported by any proper evidence, facts or scientific reasoning. (See id.). Moreover, the Board made clear that it is "incumbent upon the Patent Office . . . to back up assertions of its own with acceptable evidence," and also made clear that "[where an] examiner's 'Response to Argument' is not supported by evidence, facts or sound scientific reasoning, [then an] examiner has not established a *prima facie* case of lack of enablement under 35 U.S.C. § 112, first paragraph." (See id. at 1222 & 1223; italics in original).

In the present case, it is respectfully submitted that the Office Action has not satisfied the foregoing for establishing that undue experimentation would be required, and it is therefore respectfully requested that the enablement rejections as to claims 22 and 23 be withdrawn for all of the above reasons.

With respect to paragraph two (2), claims 20 and 21 were rejected under 35 U.S.C. § 103(a) as obvious over the "Calderbank" reference.

Claims 20 and 21 are allowable for essentially the same reasons as claim 16 from which they depend, as explained above.

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As further regard the obviousness rejections, to reject a claim as obvious under 35 U.S.C. § 103, the prior art must disclose or suggest each claim element and it must also provide a motivation or suggestion for combining the elements in the manner contemplated by the claim. (See Northern Telecom, Inc. v. Datapoint Corp., 908 F.2d 931, 934 (Fed. Cir. 1990), cert. denied, 111 S. Ct. 296 (1990); In re Bond, 910 F.2d 831, 834 (Fed. Cir. 1990)). Thus, the “problem confronted by the inventor must be considered in determining whether it would have been obvious to combine the references in order to solve the problem”, Diversitech Corp. v. Century Steps, Inc., 850 F.2d 675, 679 (Fed. Cir. 1998). It is believed and respectfully submitted that the “Calderbank” reference does not address the problems, discussed in the specification, met by the subject matter of any of the rejected claims.

The cases of In re Fine, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988), and In re Jones, 21 U.S.P.Q.2d 1941 (Fed. Cir. 1992), also make plain that the Office Action’s assertions that it would have been obvious to modify the reference relied upon does not properly support a § 103 rejection. It is respectfully suggested that those cases make plain that the Office Action reflects a subjective “obvious to try” standard, and therefore does not reflect the proper evidence to support an obviousness rejection based on the references relied upon. In particular, the Court in the case of In re Fine stated that:

Instead, the Examiner relies on hindsight in reaching his obviousness determination. . . . **One cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention.**

In re Fine, 5 U.S.P.Q.2d at 1600 (citations omitted; emphasis added). Likewise, the Court in the case of In re Jones stated that:

Before the PTO may combine the disclosures of two or more prior art references in order to establish *prima facie* obviousness, there must be some suggestion for doing so, found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. . . .

Conspicuously missing from this record is any evidence, other than the PTO's speculation (if it be called evidence) that one of ordinary skill . . . would have been motivated to make the modifications . . . necessary to arrive at the claimed [invention].

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In re Jones, 21 U.S.P.Q.2d at 1943 & 1944 (citations omitted; italics in original).

That is exactly the case here since it is respectfully submitted that the Office Action reflects hindsight, reconstruction and speculation, which these cases have indicated does not constitute evidence that will support a proper obviousness finding.

More recently, the Federal Circuit in the case of In re Kotzab has made plain that even if a claim concerns a “technologically simple concept” -- which is not even the case here, there still must be some finding as to the “specific understanding or principle within the knowledge of a skilled artisan” that would motivate a person having no knowledge of the claimed subject matter to “make the combination in the manner claimed”, stating that:

In this case, the Examiner and the Board fell into the hindsight trap. The idea of a single sensor controlling multiple valves, as opposed to multiple sensors controlling multiple valves, is a technologically simple concept. *With this simple concept in mind, the Patent and Trademark Office found prior art statements that in the abstract appeared to suggest the claimed limitation. But, there was no finding as to the specific understanding or principle within the knowledge of a skilled artisan that would have motivated one with no knowledge of Kotzab's invention to make the combination in the manner claimed.* In light of our holding of the absence of a motivation to combine the teachings in Evans, we conclude that the Board did not make out a proper *prima facie* case of obviousness in rejecting [the] claims . . . under 35 U.S.C. Section 103(a) over Evans.

(See In re Kotzab, 55 U.S.P.Q.2d 1313, 1318 (Federal Circuit 2000) (italics added)). Here again, there have been no such findings to establish that the features discussed above of the rejected claims are met by the references relied upon. As referred to above, any review of the references, whether taken alone or combined, makes plain that they simply do not describe the features discussed above of the rejected claims.

More recent still, in the case of In re Lee, 61 U.S.P.Q.2d 1430, 1433-35 (Fed. Cir. 2002), the Court reversed the Board of Appeals for relying on conclusory statements, stating the following:

With respect to Lee's application, neither the examiner nor the Board adequately supported the selection and combination of the Nortrup and Thunderchopper references to render obvious that which Lee described. The

*examiner's conclusory statements that "the demonstration mode is just a programmable feature which can be used in many different device[s] for providing automatic introduction by adding the proper programming software" and that "another motivation would be that the automatic demonstration mode is user friendly and it functions as a tutorial" do not adequately address the issue of motivation to combine. **This factual question of motivation is material to patentability, and could not be resolved on subjective belief and unknown authority.*** It is improper, in determining whether a person of ordinary skill would have been led to this combination of references, simply to "[use] that which the inventor taught against its teacher." Thus the Board must not only assure that the requisite findings are made, based on evidence of record, but must also explain the reasoning by which the findings are deemed to support the agency's conclusion.

....

*In its decision on Lee's patent application, the Board rejected the need for "any specific hint or suggestion in a particular reference" to support the combination of the Nortrup and Thunderchopper references. **Omission of a relevant factor required by precedent is both legal error and arbitrary agency action.***

*[The] "common knowledge and common sense" on which the Board relied in rejecting Lee's application are not the specialized knowledge and expertise contemplated by the Administrative Procedure Act. **Conclusory statements such as those here provided do not fulfill the agency's obligation.***

[The] Board's findings must extend to all material facts and must be documented on the record, lest the "haze of so-called expertise" acquire insulation from accountability. "Common knowledge and common sense," even if assumed to derive from the agency's expertise, do not substitute for authority when the law requires authority.

Thus, the proper evidence of obviousness must show why there is a suggestion to combine the references so as to provide the subject matter of the claims and its benefits.

Accordingly, claims 16 to 32 are allowable for all of the above reasons.

New claims 33 to 56 do not add any new matter and are supported in the specification. New claims 33 and 34 (which include features like that of claims 30 and 31) depend from allowable claims 29 or 32, and are therefore allowable for the same reasons as those claims. New claims 35 to 43 (which include features like that of claims 17 to 21 and 24 to 27) depend allowable claims 29 or 32, and are therefore allowable for the same reasons as claims 29 or 32. New independent claims 44 and 45 respectively include features like those of allowable

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claims 29 and 32, except that they are written as method claims, and are therefore allowable for essentially the same reasons as claims 29 and 32. Claims 46 to 56 (include features like those of claims 33 to 43) depend from claims 44 or 45, and are therefore allowable for the same reasons as claims 44 or 45. Accordingly, claims 33 to 56 are allowable.

It is therefore respectfully submitted that claims 16 to 56 are allowable.

CONCLUSION

In view of the foregoing, it is believed that the objections and rejections have been obviated, and that claims 16 to 56 are allowable. It is therefore respectfully requested that the objections and rejections be withdrawn, and that the present application issue as early as possible.

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Respectfully submitted,

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